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To Advance the Science of Cold-blooded Vertebrates

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ANOTHER RECORD OF ALEPISAURUS

A specimen of the deep sea fish *Alepisaurus* was received in April by the College of Fisheries. Mr. John M. Winslow, Game Warden of Grays Harbor County, Washington, who collected the fish, gave the writer the following account.

While digging clams on the beach near Grays Harbor, Washington, some men saw a large fish swimming in a lagoon formed by cutting off a shallow depression in the beach. Apparently the high dorsal fin was unbroken because the men spoke of it as appearing above the surface of the water as the fish swam about. When attempts were made to capture it, the fish snapped at the men. It presented so ferocious an aspect that the men stunned it with their clam shovels. In this condition it was carried to a log pond where it was allowed to lie on the bottom. It was rescued from this place by Mr. Winslow who promptly sent it to the College of Fisheries for identification.

One eye and a piece of the flesh near the tail is missing and the dorsal fin is now broken. The teeth are all present but one of the large vomerine teeth is

broken. The specimen at hand is about 4.5 feet in length. The head is quite flat on top, thus fitting the description of *A. serra.*

Jordan and Evermann record the following species from the Pacific Coast from Alaska to California which range includes the place where our specimen was found: *Alepisaurus aesculapius*, *A. borealis*, the latter being recorded also from Puget Sound, and *A. serra*, from Monterey, California.

The dorsal fin is blue-black and the coloration of the body corresponds with the description of *A. aesculapius*, while the dentition is that of *A. borealis.* Other details agree with either one species or the other.

The question naturally arises as to the validity of the different species, especially when it is considered that their ranges coincide, that few specimens are recorded and most of these are mutilated and that many deep sea fishes are known to have a very wide distribution. The differences between the species as described do not appear to be greater than those which frequently occur in other widely distributed species or to changes due to age or sexual dimorphism, etc.

In speaking of *Alepisaurus* Günther mentions the fragile nature of the fish and makes the following comment:

"The fibrous ligaments connecting the vertebrae are very loose and extensible, so that the form of the fish is easily lengthened when its body is slightly stretched. Therefore, no reliance whatever is to be placed on trivial specific distinctions founded on the form of the dorsal fin and on the relative proportions of the head and body."

Further on Günther states that "the teeth are constantly changing."

The differences, then, between *A. ferox* and *A. aesculapius* are not well defined since they depend on proportions of the body. According to Jordan and Evermann, *A. ferox* is less stout posteriorly than *A.*

aesculapius. *A. serra* seems to differ from *A. borealis* in the length of teeth, which difference seems to be accounted for by the changes due to age, replacement, etc. It is possible to refer all of these species to *A. ferox* and consider any differences as a natural consequence of the wide distribution and the mutilated condition of the majority of the known specimens. *A. serra*, for instance, is described from sun-dried fragments of one specimen.

The remaining species, *A. altivelis* described by Poey from Cuban waters seems to differ from *A. ferox* in the length of the paired fins and in the number of fin rays both of which variations are within the limits of changes which are known to be due to sexual dimorphism.

The writer knows of no records of small specimens or of the sex of any specimen caught.

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ON TWO PREOCCUPIED FISH NAMES *ROUELINA* AND *EUSALPA*

DR. David S. Jordan, very kindly called my attention to *Rouelina* Jordan (A Classification of Fishes, 1923, p. 122, type *Aleposomus guntheri* Alcock) as precluding *Rouelina* Fowler (Am. Mus. Novit., No. 162, March 31, 1925, p. 2, type *Eurypharynx richardi* Roule). For the latter I propose *Jordanites*, type *Eurypharynx richardi* Roule.

He also notes *Sarpa* Bonaparte 1831, "a bare word of reference," and the "intended type is obviously" designated as *Sparus salpa* Linné (The Genera of Fishes, part 2, 1919, p. 175). This would replace *Eusalpa* Fowler (L. c. p. 4).

I would also call attention to my unsigned article "Records of Fishes in New Jersey 1924" (Copeia,

No. 143, July 17, 1925, pp. 42–46). In it No. 17 should read *Microgadus* and not *Micrognathus*.

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NOTE ON THE NAME *LAMPETRA*

THIS first occurs (in Tabl. Encyclop. Meth. Ich., 1778, p. LI), by Bonnaterre, as his first genus. It has, however, usually been credited to Gray (P. Z. S. 1851, p. 249), with *Petromyzon fluviatilis* Linné as type. Bonnaterre (on p. 1) uses "*Petromison*," with the species *marinus* Linné, *fluviatilis* Linné, *branchialis* Linné and *planeri* Bloch. If the name is to be credited to Bonnaterre 1778, the type may be selected as *Petromyzon fluviatilis* Linné.

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PORTO RICAN HERPETOLOGICAL NOTES

WHILE I was in Porto Rico in 1923 and 1924 carrying on some ornithological investigations for Cornell University I made a small herpetological collection. A few notes on the specimens and on species observed in the field might be of interest.

1. *Bufo marinus* (Linn.). 12 specimens of this species were obtained from Trinidad by Mr. D. W. May, Agronomist-in-charge of the Porto Rico Agricultural Experiment Station, and liberated on the Experiment Station grounds in 1920. By 1924 they had become quite common within a radius of at least four miles. Mr. Antonio Ramírez, a very accurate observer, reported that near his home they lay their eggs in the crannies in the side of a well. He brought me two specimens of the toads. Mr. May states that

he believes they are of great value in combating mole crickets and other insects.

2. *Leptodactylus albilabris* (Gunther). Common at Mayagüez, and at Cartagena Lagoon, where their tadpoles were found abundantly in the shallow, grassy parts of the lagoon.

3. *Eleutherodactylus auriculatus* (Cope). Abundant. Specimens and field observations from Mayagüez, Arecibo, Penuelas, Río Piedras and Humacao.

4. *Sphaerodactylus macrolepis* (Günther). Often found in bathrooms and semidark rooms. One kept in captivity ate flies freely. I preserved a newly hatched young of a brood which hatched in a china closet at Mayagüez, May 17, 1924.

5. *Anolis cristatellus* (Duméril and Bibron). Fifty specimens from Mayagüez, Desengaño and Río Piedras. Probably the commonest lizard on the island. One large specimen observed eating a coquí, (*Eleutherodactylus auriculatus*). In common with *A. stratulus*, this species is very fond of the juicy pulp of the mango, and can be easily baited with this.

6. *Anolis stratulus* (Cope). Twenty-five specimens from Mayagüez, Desengaño and Río Piedras. The most abundant species on the Federal Experiment Station grounds at Mayagüez. My father, R. E. Danforth, Professor of Zoölogy in the Agricultural College at Mayagüez, sends me this note on the mating of *A. stratulus*: "Oct. 21, 1924, Mayagüez, 3 P. M., bright sunlight. Observed mating for first time. ♂ first kept close to ♀, gradually getting over her. After awhile he seized the skin on the back of her neck in his mouth, his left hand behind her left shoulder, his right hind foot over her right hind foot, which was on the bark of a calabash tree and not far above the ground. His tail bent under hers immediately behind the hind legs, bringing their openings close together. Both remained *perfectly* still without the least quiver or motion, and permitted close inspection. After about 3 or 4 minutes of this contact they

parted suddenly as though frightened by the approach of someone.

7. *Anolis pulchellus* (Dumeril and Bibron). Twenty specimens from Mayagüez, Desengaño, Río Piedras and Humacao. Abundant in grassy places.

8. *Anolis krugi* (Peters). On Jan. 28, 1924, I obtained a specimen on the Experiment Station grounds at Mayagüez. I believe this is the first sea level record for this species. In April 30, 1924, I observed another at the same place.

9. *Anolis poncensis* (Stejneger). Observed only on Mariquita Hill (two miles west of Lajas).

10. *Ameiva exul* (Cope.) Common at lower altitudes on all parts of the island. Specimens from Desengaño. During the winter they came out only in the middle of the day, but after April they could be observed any time when the sun was shining.

11. *Ameiva wetmorei* (Stejneger). This comparatively new and little known species has hitherto been known only from Ensenada, the type locality. I found it there, and also obtained six specimens from Mariquita Hill and from near Cabo Rojo lighthouse, at the extreme southwestern tip of the island, and probably the most arid spot on the island. It was quite common there. In life the stripes on the back are a light yellow, and the tail is brilliant emerald green, changing to blue after being shot.

12. *Amphisbaena bakeri* (Stejneger). A specimen from Mayagüez is in the collection of the College of Agriculture at Mayagüez. It has 246 body rings; total length 255 mm., length of tail 21.5 mm. No date is given.

13. *Typhlops richardii* (Duméril and Bibron). One specimen from Mayagüez. The College of Agriculture also has three specimens from Mayagüez. The lengths of the four specimens are 139, 295, 260, and 230 mm., body scale rows 20, 20, 20, 22.

14. *Leimadophis stahli* (Stejneger). Snakes in Porto Rico are now so scarce that I was able to obtain

only three during a year and all were of this species. Two were from Mayagüez and one from Anasco. There were nineteen scale rows and 159 ventrals on these specimens.

15. *Alsophis portoricensis* (Reinhardt and Luetken). Two specimens from Mayagüez are in the collection of the College of Agriculture. One has 20 scale rows, the other 17.

16. *Pseudemys palustris* (Gmelin). Fifteen specimens from Cartagena Lagoon, where they are common, though not often seen in winter. By April they were laying eggs. For that purpose they come out on land at night, and the natives choose that time to hunt them with the aid of lights. They are sold in the markets for food. There is a popular idea among the natives that there are two species, a green and a black one, but I have found specimens forming all sorts of intergrades between the two. These turtles are only rarely seen sunning themselves.

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THE CIRCULATION OF A SALAMANDER

THE circulation in the gills of young larvae of *Ambystoma maculatum* may be observed through a binocular. Pulsation is well defined and it may be seen that it varies with any change in temperature of the water, becoming slower or faster as the water is cooled or heated. In the laboratory change of temperature may be regulated by slowly dropping boiling water into the dish or by placing small pieces of ice in the water. Any sudden change in warmth above thirty-three degrees kills the specimen, although with care thirty-five or thirty-six degrees have been reached without injury to the specimen. On one case pulsation stopped entirely after reaching thirty-five degrees, the salamander was then placed in water about ten degrees and after

a time the pulsations recommenced. The temperature of the water may be taken and the number of beats per minute recorded.

The activity of the salamander also varies with the temperature. At thirty-five degrees it is sluggish and quite inactive. It becomes more active as the temperature is lowered and around ten degrees, the temperature of pond water, it is so active that observations are difficult. The salamander may be completely surrounded with ice for a short time with no apparent injury. It is less active at this temperature.

The following tables show the results of observations made by this method.

TABLE I.

Individual	Degrees Centigrade	Beats per Minute
1.	35	160
	33	152
	32	150
	18	60
	15	54
2.	20	70
	18	60
	17	56
	16	54
	15	52

TABLE II.
(Made a week later.)

1.	33	120
	31	108
	30	102
2.	35	54
	33	49
	30	47
3.	32.5	42
	31	38
	28	34
2.	10	18
Same as	9	18
No. 2 above	8	12
3.	9	24
Same as	8	20
No. 3 above	8	22

TABLE III.

Individual	Degrees Centigrade	Beats per Minute
1.	35	120
	33	112
	32	106
	30	102
	25	80
2.	34	116
	33	110
	31	100
	30	92
	28	80
3.	36	120
	35	114
	30	96
	26	76
	25	70
1.	10	18
Same as	9.5	16
No. 1 above	8	12
	7	10
2.	12	20
Same as	10	16
No. 2 above	9	12
	8	12
3.	10	20
Same as	9	18
No. 3 above	8	18
	7	14

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